

SECTION 2 INSTALLATION

2.1 RECEIVING INSPECTION

2.1.1 The KATO Motor-generator Set is carefully packed and crated for shipment, and can withstand most shocks incurred during transit. Before accepting shipment from the transportation company examine the crating carefully to determine if any damage has occurred during shipment. Unpack the unit as described in paragraph 2.2 and then carefully examine the sheet metal frame and exciter cover for signs of damage. Remove the exciter cover and examine the inside of the generator for signs of damage. Remove the exciter cover and examine the inside of the generator for signs of damage to windings, lead wires and other internal parts. Inspect for loosely mounted components and the presence of moisture. Inspect to make certain foreign material such as crating nails, loose bolts or packing material which may have fallen into the machine during unpacking are removed. Check clearance of rotating and stationary parts. Turn rotor to make certain it turns freely without binding. If damage is noted, determine the extent of damage and immediately notify the transportation company claims office and KATO Engineering Company. Be sure to give complete and accurate details when reporting damage.

2.1.2 If the generator is to be placed in storage repackage and crate the generator set. Recommended procedures for storage are contained in paragraph 2.2.

2.2 UNPACKING AND STORAGE

2.2.1 If the generator is received during cold weather, let the crated unit stabilize to room temperature before removing the protective crating and packing material. This precaution will minimize the condensation of moisture on coil surfaces, eliminating the possibilities of wet windings and insulating materials which could cause early malfunctions of the generator.

2.2.2 Unpack the generator with care to avoid damage to the unit. Move the generator to the mounting location either by attaching an overhead hoist to the eye-bolts installed in the generator frame or by lifting the generator from underneath the base with a fork lift. Determine that the hoist, when used, is of sufficient strength to adequately support the weight of the motor-generator. When moving units with a fork lift make certain it is completely onto and balanced on the fork lift tines. Make certain fork lift tines do not apply pressure to the motor-generator sheet metal wrapper cover.

CAUTION

Always make certain extreme care is taken when moving the generator to prevent its striking other objects or personnel. Never apply a lifting force to structural points other than those provided for that purpose.

2.2.3 If the generator is not to be installed in its operating location as soon as received, it should be stored in a clean dry area, not subject to sudden temperature or humidity changes. If possible, storage should be in an ambient temperature of approximately normal room temperature. Units which cannot be stored in a temperature and humidity controlled area and which are to be in storage for periods of longer than six months, should be prepared for storage by installing desiccant bags in the exciter cover and inside the fan screen and vacuum sealing the unit in a covering of plastic or other material designed for that purpose. The unit should be adequately tagged to ensure that desiccant bags are removed before the unit is placed in operation.

2.3 LOCATION

2.3.1 The KATO motor-generator can be installed in any clean, dry, well ventilated area which affords sufficient accessibility for operation and maintenance of the unit and which allows a sufficient unobstructed flow of coolant air. Avoid locations which would subject the generator to excessive moisture, dust, steam or the fumes from acids, alkalines or other corrosive chemicals. If such exposure cannot be avoided, establish a rigid periodic maintenance schedule. The adverse effect of excessive moisture can usually be eliminated or at least greatly lessened by the use of space or strip heaters.

2.3.2 The installation of control cubicals is usually not critical. Wall mounted control cubicles can be mounted on any wall or steel bulkhead which will adequately support the weight of the control cubicle. The control cubicle and generator frame must be grounded to a common ground. Interconnecting lines between the generator and the control cubicle as well as all incoming and load lines must be to National Electrical Code and local electrical codes.

2.3.3 The foundation or supports which mount the generator and prime mover must be rigid, level and of ample size and strength to support the weight of the motor-generator set. Although a reinforced concrete foundation usually makes the best foundation for heavy machinery, the motor-generator set may be placed on any concrete, steel or other structural material which will adequately support the weight of the unit. Bearing loads of structural materials can be obtained by referring to engineering handbooks.

2.4 MOUNTING MOTOR-GENERATOR

2.4.1 If the foundation is slightly uneven, install shims under the Motor-Generator mounting pads until all pads are in contact with the foundation. Use a feeler gage to determine thickness of shims required.

2.4.2 When generator sets are installed in areas such as office buildings where noise or vibration would be a nuisance, these undesirable effects can usually be eliminated or greatly reduced by installing vibration dampeners. KATO base mounting feet when properly installed provide a means of easily leveling generator sets as well as providing "vibration dampening". Install KATO base mounting feet as shown on figure 2-1

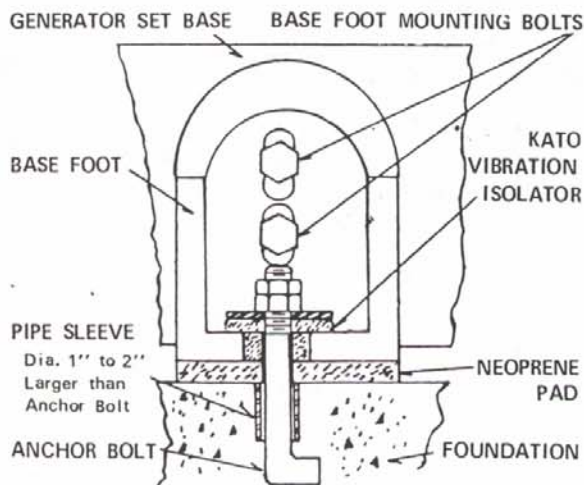
2.5 ELECTRICAL CONNECTIONS

2.5.1 Before connecting the motor-generator to the electrical power load, check nameplate for the electrical characteristics and connect the unit exactly as shown in the connection diagrams. Refer to National Electrical Code or applicable local regulations for minimum specifications for wire size, conduit and protective devices.

2.5.2 Contact KATO Engineering Company before attempting to make any changes in control component interwiring.

2.6 PROTECTIVE DEVICES

2.6.1 Refer to National Electrical Code and local electrical codes for minimum requirements.



Level unit by loosening base foot mounting bolts and then sliding base foot in elongated slots.

Anchor the assembly to foundation with anchor bolts. Use KATO vibration isolators to provide vibration isolation.

Do not secure anchor bolt nuts too tightly. Compression of vibration isolator and neoprene pad will eliminate their effectiveness in dampening vibration.

Figure 2-1 Leveling and Mounting Motor-Generator Sets which incorporate Kato Base Feet.